



Doc Code: AP.PRE.REQ

PTO/SB/33 (07-05)

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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

081468-0308294

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Application Number

10/785,046

Filed

February 25, 2004

First Named Inventor

Wilhelmus Josephus BOX

Art Unit

2851

Examiner

KIM, Peter B.

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

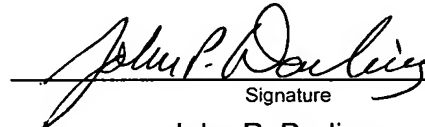
I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒ attorney or agent of record. 44482
Registration number _____

☐ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____


Signature

John P. Darling

Typed or printed name

703 770.7745

Telephone number

June 15, 2006

Date

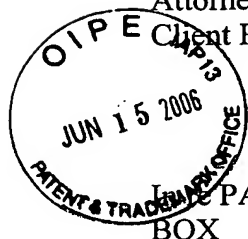
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ *Total of 1 forms are submitted.

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Attorney Docket: 081468-0308294
Client Reference: P-0300.011-US



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

LITHOGRAPHIC PATENT APPLICATION of:
BOX

Confirmation Number: 8581

Group Art Unit: 2851

Application No.: 10/785,046

Filed: February 25, 2004

Examiner: Peter B. Kim

Title: LITHOGRAPHIC APPARATUS, DEVICE MANUFACTURING METHOD, AND
METHOD OF MANUFACTURING A COMPONENT

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Further to the Notice of Appeal filed herewith, Applicant respectfully requests review of the rejection of claims 1-20 under 35 U.S.C. § 102(e) over Nishi (U.S. Patent Application Publication 2001/0010579 A1). 010579 A1).

The Examiner alleges on page 3, 15- 16, that “[i]t is seems that the temperature at which CTE crosses zero and the mean operating temperature is going to be the same for all ZERODUR.” The Examiner is incorrect.

Firstly, as clearly discussed in the previous replies, the instant application discloses, for example, in paragraph [0010], ZERODUR® is a commercially available glass ceramic material made with various additives to provide a desired low coefficient of thermal expansion (CTE). As further disclosed, the CTE is exactly zero at only one temperature so that some thermal expansion and contraction does take place, leading to surface deformations and loss of image quality.

Secondly, as also discussed in the previous replies, and as further disclosed, for example, in paragraphs [0030] – [0033], of the instant application, a component may be manufactured from a material having a coefficient of thermal expansion having a zero-crossing at a temperature between a manufacturing temperature and a mean operating temperature of the component. As also disclosed, for example, in paragraph [0039], the

coefficient of thermal expansion zero-crossing temperature can be selected by appropriate control of the additives and/or the manufacturing process.

Thirdly, with respect to the Examiner's conclusion that the mean operating temperature is going to be the same for all ZERODUR®, it is respectfully submitted that the Examiner does not understand what the mean operating temperature is. The mean operating temperature is the average temperature at which the component is operated. In the instant application, the component is a component of a lithographic apparatus. Not all low coefficient of thermal expansion material is operated at the same mean operating temperature, not even those components used in lithographic apparatus, as incorrectly concluded by the Examiner.

In the February 15, 2006 Office Action, the Examiner requested that Applicant support for conventional manufacturing methods or temperature of ZERODUR® compared to Applicant's method. This support was previously supplied in the fifth paragraph of page 5 of the January 5, 2005 response, in which paragraphs [0030] – [0033] and [0039] were referenced. In addition, in the May 12, 2006 response, it was noted that Applicant provided in the March 4, 2003 Information Disclosure Statement, filed in parent application 10/307,485, Abstract No. XP-002198457, which was cited in the European Search Report of the European priority Application. Abstract No. XP-002198457 was considered by the Examiner in parent application 10/307,485, and in the instant application.

As clearly disclosed in Abstract No. XP-002198457, "zero expansion" material, such as ZERODUR®, is manufactured by combining a negative thermal expansion coefficient crystalline phase with a positive coefficient amorphous phase in such proportions as to result in an expansion coefficient of almost zero over a large temperature interval. As also disclosed in Abstract No. XP-002198457, by design these materials typically exhibit a change in the sign (i.e. a zero-crossing) of the coefficient of linear thermal expansion near room temperature. It is respectfully noted that the claims of the instant application recite a material having a coefficient of thermal expansion having a zero-crossing at a first temperature which is between a second (manufacturing) temperature and a mean operating temperature. There is no disclosure or suggestion by any of the prior art of record, including Nishi and Abstract No. XP-002198457, of such a feature.

In response to Applicant noting the disclosure of Abstract No. XP-002198457, the Examiner, in the Advisory Action, replied, "Applicant must distinguish ZERODUR of Nishi from that of the claimed invention. Once a product appearing to be substantially identical is

found and a rejection made, the burden shifts to the applicant to show an unobvious difference.”

It is respectfully submitted that the Examiner has not found a product appearing to be substantially identical. Paragraph [0096] of Nishi discloses that materials of low linear coefficient of expansion may be used. There is no disclosure of the (first) zero crossing temperature, i.e. the temperature at which the coefficient is zero, being between the (second) manufacturing temperature and the mean operating temperature. As discussed above, the paragraphs [0030] – [0033] and [0039] of the instant specification disclose that the coefficient of thermal expansion can be selected by appropriate control of the additives and/or the manufacturing process and Abstract No. XP-002198457 discloses that the zero crossing temperature of materials, such as ZERODUR®, is, by design, around room temperature. Therefore, the ZERODUR® disclosed in paragraph [0096] of Nishi is not “substantially identical” to the claimed material.

Rather than address the support provided by Applicants, the Examiner chooses instead to fall back on the old inherency/substantially identical theory in an effort to avoid acknowledging the utter lack of disclosure by Nishi of the claimed methods, component, and lithographic apparatus. There is no disclosure or suggestion or discussion whatsoever by Nishi of the mean operating temperature of the components which may be formed of ZERODUR®, or of the manufacturing temperature of any of the components which may be formed of ZERODUR®. There is also no disclosure or suggestion by Nishi of any of the components made of ZERODUR® having a CTE with a zero crossing temperature between these temperatures.

The standard of anticipation is clear – the identical invention must be disclosed by the prior art in as much detail as contained in the claim. The Examiner’s attempt to overcome the woefully inadequate disclosure of Nishi and shift the burden to Applicant by reliance on “substantial” identity is simply not enough to meet this standard.

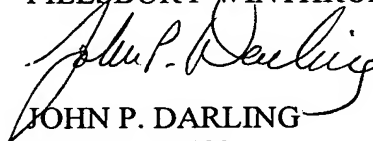
As discussed in the previous replies, with respect to the Examiner’s assertions that product by process claims are not limited to the manipulation of the recited steps, it is respectfully noted that Applicant is not claiming a product by process. Claim 1 recites to a method of manufacturing a component. Claim 8 recites a component having a coefficient of thermal expansion (CTE) having a zero-crossing at a first temperature that is between the second, manufacturing temperature and a mean operating temperature. The CTE of a material is a physical property, similar to any other physical property such as density,

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Young's modulus, Poisson's ratio, specific heat, Abbe factor, refractive index, etc. The CTE of the material is not a product by process limitation. The zero crossing temperature, i.e. the temperature at which the CTE is zero, is also a physical property of the material.

Respectfully submitted,

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